

ABSTRACT

The invention relates to machine building in particular to blade machines for air injection, in particular to fans and air blowers, and also to blades of different propulsion devices. The inventive method for increasing the blade (1) performance consists in producing a blade (1) in the form of a wing and in carrying out the boundary layer suction on the blade 1 surface on the opposite side with respect to the incoming air flow through a system of slotted holes (4). The blade (1) is provided with a thick airfoil profile. The air suction is carried out through the system of slotted holes (4) embodied along the blade (1) and into cavities (5) which are embodied under said holes (4) along the latter and each of which is provided with a central longitudinal hollow body arranged therein, said body forming an annular channel (7) in each cavities (5) in such a way that a vortex-like flow is generated by the incoming air flow in said channel. The air is sucked out from the cavities (5) and the central bodies (6) through branch channels (8). The latter are used to discharge air outside of the blade (1). The air flowing-off along the cavities (5) and along the blade 1 is limited within the cavities (5) by mounting partitions and on an external surface of the blade (1) – by mounting ribs (9). In another embodiment of the method, the cavity is embodied without the central body (6). As a result, the invention makes it possible to increase the blade performance.